

Abstract

5 Compositions containing a knob attached to a specific site of a protein and methods of
producing and using these compositions are disclosed. The compositions comprise a knob, a tail
portion and a protein portion. The protein portion contains a substituted cysteine residue at the
desired location of labeling. The tail portion is located at the terminal end of the protein portion.
The knob is linked to the end of the tail portion and contains a cysteine residue. The substituted
cysteine residue on the protein portion and the cysteine residue on the knob form a disulfide
10 bond, thereby tagging the protein portion at the desired site with the knob.

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